

DOCUMENT RESUME

ED 217 631

EC 142 716

AUTHOR Deshler, Donald D.; And Others
 TITLE An Epidemiological Study of Learning Disabled Adolescents in Secondary Schools: Academic Self-Image and Attributions.
 INSTITUTION Kansas Univ., Lawrence, Inst. for Research in Learning Disabilities.
 SPONS AGENCY Bureau of Education for the Handicapped (DHEW/OE), Washington, D.C.
 REPORT NO IRLD-RR-14
 PUB DATE Jan 80
 CONTRACT 300-77-0494
 NOTE 33p.; For related documents, see EC 142 714-721.
 EDRS PRICE MF01/PC02 Plus Postage.
 DESCRIPTORS Academic Achievement; Adolescents; Aspiration; *Learning Disabilities; *Low Achievement; *Performance Factors; Questionnaires; Secondary Education; *Self Concept; *Self Evaluation (Individuals); *Student Attitudes; Young Adults

ABSTRACT

One of a series of papers on a study of the environmental setting of learning disabled (LD) secondary students, the document reports findings on academic self image and attributions for academic failure of 234 LD, 222 low achieving (LA), and 215 normal achieving (NA) students. Ss were asked questions related to their satisfaction with school, their school performance, themselves as learners, reasons for dissatisfaction with school, and future school and job plans. Results included that LD students felt much better than LA students about their school performance, that LD students reported expectations of at least completing high school and obtaining jobs that would provide them with middle class incomes, and that LD students reported they learned things more slowly and in a different way than others. Tables with statistical data corresponding to questionnaire items are provided. (SB)

 * Reproductions supplied by EDRS are the best that can be made *
 * from the original document. *

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION
CENTER (ERIC)

This document has been reproduced as
received from the person or organization
originating it.
Minor changes have been made to improve
reproduction quality.

• Points of view or opinions stated in this docu-
ment do not necessarily represent official NIE
position or policy.

ED217631

INSTITUTE FOR RESEARCH IN LEARNING DISABILITIES



The University of Kansas
Lawrence, Kansas, 66045
Emphasis on Adolescents and Young Adults

AN EPIDEMIOLOGICAL STUDY OF LEARNING
DISABLED ADOLESCENTS IN SECONDARY SCHOOLS:
ACADEMIC SELF-IMAGE AND ATTRIBUTIONS

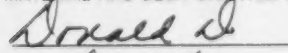
Donald D. Deshler, Jean B. Schumaker,
Gordon R. Alley, Michael M. Warner,
and Frances L. Clark

Research Report No. 14

January, 1980

EC142716

"PERMISSION TO REPRODUCE THIS
MATERIAL HAS BEEN GRANTED BY




TO THE EDUCATIONAL RESOURCES
INFORMATION CENTER (ERIC)."

2

The University of Kansas Institute for Research in Learning Disabilities is supported by a contract (#300-77-0494) with the Bureau of Education for the Handicapped, Department of Health, Education, and Welfare, U. S. Office of Education, through Title VI-G of Public Law 91-230. The University of Kansas Institute, a joint research effort involving the Department of Special Education and the Bureau of Child Research, has specified the learning disabled adolescent and young adult as the target population. The major responsibility of the Institute is to develop effective means of identifying learning disabled populations at the secondary level and to construct interventions that will have an effect upon school performance and life adjustment. Many areas of research have been designed to study the problems of LD adolescents and young adults in both school and non-school settings (e.g., employment, juvenile justice, military, etc.)

Co-Directors: Edward L. Meyen
Richard L. Schiefelbusch

Research Coordinator: Donald D. Deshler

Associate Coordinator: Jean B. Schumaker

Institute for Research in Learning Disabilities
The University of Kansas
313 Carruth-O'Leary Hall
Lawrence, Kansas 66045

*
* The preparation of this document was supported by a government
* contract. The views expressed here are those of the Institute,
* and do not necessarily reflect official positions of the Bureau
* of Education for the Handicapped, DHEW, USOE.
*

Cooperating Agencies

Were it not for the cooperation of many agencies in the public and private sector, the research efforts of The University of Kansas Institute for Research in Learning Disabilities could not be conducted. The Institute has maintained an on-going dialogue with participating school districts and agencies to give focus to the research questions and issues that we address as an Institute. We see this dialogue as a means of reducing the gap between research and practice. This communication also allows us to design procedures that: (a) protect the LD adolescent or young adult, (b) disrupt the on-going program as little as possible, and (c) provide appropriate research data.

The majority of our research to this time has been conducted in public school settings in both Kansas and Missouri. School districts in Kansas which are participating in various studies include: United School District (USD) 384, Blue Valley; USD 500, Kansas City; USD 469, Lansing; USD 497, Lawrence; USD 453, Leavenworth; USD 233, Olathe; USD 305, Salina; USD 450, Shawnee Heights; USD 512, Shawnee Mission; USD 464, Tonganoxie; USD 202, Turner; and USD 501, Topeka. Studies are also being conducted in Center School District and the New School for Human Education, Kansas City, Missouri; the School District of St. Joseph, St. Joseph, Missouri; Delta County, Colorado School District; Montrose County, Colorado School District; Elkhart Community Schools, Elkhart, Indiana; and Beaverton School District, Beaverton, Oregon. Many Child Service Demonstration Centers throughout the country have also contributed to our efforts.

Agencies currently participating in research in the juvenile justice system are the Overland Park, Kansas Youth Diversion Project and the Douglas, Johnson, and Leavenworth County, Kansas Juvenile Courts. Other agencies have participated in out-of-school studies--Achievement Place and Penn House of Lawrence, Kansas, Kansas State Industrial Reformatory, Hutchinson, Kansas; the U.S. Military; and the Job Corps. Numerous employers in the public and private sector have also aided us with studies in employment.

While the agencies mentioned above allowed us to contact individuals and supported our efforts, the cooperation of those individuals--LD adolescents and young adults; parents; professionals in education, the criminal justice system, the business community, and the military--have provided the valuable data for our research. This information will assist us in our research endeavors that have the potential of yielding greatest payoff for interventions with the LD adolescent and young adult.

AN EPIDEMIOLOGICAL STUDY OF LEARNING DISABLED ADOLESCENTS IN SECONDARY SCHOOLS

Abstract

In recent years, professionals in the field of learning disabilities have begun to address the impact of learning disabilities on adolescents and young adults. Although substantial attention has been directed to the manifestations of learning disabilities in elementary school age populations, the significantly different and increasingly complex demands on adolescents both in and out of school necessitate the development of systematic research on this population. The University of Kansas Institute for Research in Learning Disabilities has collected a broad array of data to form an epidemiological data base on LD adolescents and young adults. Data have been collected from learning disabled, low-achieving, and normal-achieving adolescents as well as from their parents and teachers. In addition, information from the environmental setting of the LD adolescents which pertains to interventions applied on behalf of the student, relationships with others, conditions under which he/she operates and support systems available for his/her use has also been collected. These data have been considered in relation to data on specific learner characteristics to gain a more complete profile of the older LD individual.

Research results presented in Research Reports 12 through 20 detail findings from this comprehensive epidemiology study conducted during 1979-80 by the Institute. It is important for the reader to study and view each of these individual reports in relation to this overall line of research. An understanding of the complex nature of the learning disability condition only begins to emerge when each specific topic or finding is seen as a partial, but important, piece of a larger whole.

The specific aspects of the total study presented in individual Research Reports are listed below:

- Research Report No. 12: Details of the Methodology
- Research Report No. 13: Achievement and Ability, Socioeconomic Status, and School Experiences
- Research Report No. 14: Academic Self-Image and Attributions

- Research Report No. 15: Health and Medical Factors
- Research Report No. 16: Behavioral and Emotional Status from
the Perspective of Parents and Teachers
- Research Report No. 17: The Relationship of Family Factors to
the Condition of Learning Disabilities
- Research Report No. 18: Social Status, Peer Relationship, Activ-
ities In and Out of School, and Time Use
- Research Report No. 19: Support Services
- Research Report No. 20: Classification of Learning Disabled
and Low-Achieving Adolescents

AN EPIDEMIOLOGICAL STUDY OF LEARNING DISABLED
AND LOW-ACHIEVING ADOLESCENTS IN SECONDARY SCHOOLS:
ACADEMIC SELF-IMAGE AND ATTRIBUTIONS
FOR ACADEMIC FAILURE

Since the inception of the learning disability field in the early 1960s, emphasis for treatment and intervention has been on younger children. Only recently has attention been turned to addressing the educational and life adjustment needs of adolescents and young adults as well (Alley and Deshler, 1979). However, a prerequisite step to developing sound instructional systems and procedures for the older-aged learning disabled is for the field to achieve a thorough understanding of the complex nature of the condition of learning disabilities in older populations.

There are some unique problems related to adolescents with learning disabilities which have not been adequately addressed within the research on learning disabilities in elementary populations. Among these are the following. The demands of the curriculum in secondary schools or job requirements in employment settings are significantly different from the demands placed on LD students in elementary settings. Thus, the manifestations of the specific learning disability may be altered. Second, there are many variables associated with the condition of learning disabilities; it would appear that the complexity and interaction of these increase as the adolescent moves from school to non-school settings and as the number and variety of his/her social groupings increase (Deshler, 1978). Thirdly, there is very little knowledge about the conditions confronting the LD adolescent and young adult in non-school settings and the degree to which these individuals can cope with these circumstances.

The complex nature of the condition of learning disabilities and the unique features of the conditions and the environment facing the LD adolescent and young adult demonstrate the need for systematic research on this population. Most research efforts on LD populations have centered on the attributes of the learner alone, and thus have focused upon the intrinsic behavioral or cognitive causes of the disability. Such attempts have results in limited breakthroughs regarding population identification and intervention development. A potentially productive research approach is one that considers not only learner attributes, but environmental factors as well as a means of describing and understanding the learning disabled adolescent and young adult. Lewin's (1935) formulation to explain human behavior, $B = f(PE)$, where B = behavior, P = person, and E = environment, may be a more appropriate means of conceptualizing and researching learning disabilities. Through such an approach, learning disability would be viewed as a condition which results from a complex interaction between the learner and the environment. Therefore, the purpose of a major line of research conducted by The University of Kansas Institute for Research in Learning Disabilities has been to collect a broad array of data to form an epidemiology data base on older LD populations. Data have been collected from the environmental setting of the LD adolescent which pertain to interventions applied on behalf of the student, conditions under which he/she operates and support systems available for his/her use. These data have been considered in relation to data on specific learner characteristics to gain a more complete profile of the older LD individual.

Research results presented in The University of Kansas Institute for Research in Learning Disabilities Research Reports 12 through 20 detail findings from this comprehensive epidemiology study conducted during 1979-80 by the Institute. It is important for the reader to study and view each of these individual reports in relation to this overall line of research. An understanding of the complex nature of the learning disability condition only begins to emerge when each specific topic or finding is seen as partial, but important, piece of a larger whole. This specific research report will present findings on the academic self-image and attributions for academic failure of learning disabled, low-achieving, and normal-achieving adolescents in secondary schools.

Most attention to explain or impact the performance of LD adolescents has been focused on specific academic or cognitive deficits within the student. Epidemiology research conducted by the Institute substantiates this academic and cognitive emphasis (see Research Reports 13 through 20). While these factors are clearly central to understanding the performance of LD adolescents several authors suggest that a broad array of other factors must also be considered in explaining the performance of LD adolescents in school settings and their life adjustment in post school environments. Deshler (1978) contends, for example, that a profile of the older aged LD student begins to emerge only when the students' perception of their academic performance and abilities, preference for school, explanation for academic failure and expectations for post school placement and success are considered. Often times curriculum decisions are made regarding the LD adolescents without considering his/her perceptions of these factors.

A frequent explanation for the poor performance of LD adolescents is that they simply do not like school or are turned-off by its highly structured and often irrelevant curricula (Poremba, 1967; Wiederholt and McEntire, 1980). Others have hypothesized that poor performance is accounted for by the fact that LD students learn in different ways and approach learning tasks uniquely from their normal-achieving peers (Senf, 1972; Velluntino, 1977; Torgeson, 1977; Wong, 1979). To compensate for these different learning styles and academic needs numerous curriculum modifications have been proposed as a means of increasing the LD students' success in the secondary curriculum (Wiseman and VanRuessen, 1979; Wiederholt, 1978; Touzel, 1978). Similarly, intervention approaches have been developed to assist the student in better coping with the existing demands of the secondary setting and reducing the discrepancy between the performance of the LD students and normal-achieving peers (Alley and Deshler, 1979; Zigmond, 1978). Other curricular approaches have been designed on the assumption that LD students have low expectations for additional schooling after high school or for entering jobs that demand higher levels of competence and expertise (Nassor, 1979; Clark, 1976). The validity of these and other curriculum options for LD adolescents is dependent, in part, on the degree to which they meet the needs of LD adolescents from the perspective of the LD student as well as the professional working with these students.

The purpose of this investigation, therefore, was to determine the academic self-image of three groups of students: LD adolescents, low-achieving adolescents, and normal-achieving adolescents. Academic self-image was operationalized in this study by collecting data to determine how much they liked school, their preference for spending time in school,

the way in which they learned new things, how pleased they were with their performance in school, and plans they had for additional schooling and job placement after high school. A related aspect of this investigation was to study the attributions of the three target groups for their academic performance.

Methodology

Subjects

Three groups of adolescents and their parents participated in this part of the study. The adolescents included LD students, low-achieving students, and normal-achieving students in grades 7, 8, 9, 10, 11, and 12. LD students were those currently being served in programs for learning disabled students and validated by the IRLD Validation team. Low-achieving (LA) students were students who had recently received one or more failing grade in required subjects, scored below the 33rd percentile on group administered achievement tests, and who were not receiving special educational services. Normal-achieving (NA) students were those who had passing grades, scored above the 33rd percentile in achievement, and who were not receiving special educational services. The students and their parents agreed to participate in this study. For more details on student selection, see The University of Kansas Institute for Research in Learning Disabilities Research Report No. 12 (Schumaker, Warner, Deshler, & Alley, 1980). Two hundred thirty-four LD students and 162 of their parents, 222 low-achieving students and 144 of their parents, and 215 normal-achieving students and 184 of their parents took part.

Settings

Three school districts in northeast Kansas agreed to participate (USDs #500, #512, and #202). The students provided information for this study in small, quiet rooms selected by their schools. Parents provided information at their leisure at home. (For more information regarding settings see Schumaker et. al., 1980)

Measurement System

One assessment instrument, the Youth Instrument was used in this analysis. The instrument was designed with a number of questions regarding how much students liked school, their preference for spending time in school, the way in which they learned new things, how pleased they were with their performance in school and plans they had for additional schooling and job placement after high school. Some questions involved Likert-type scales, others involved multiple choice answers, and still others allowed for open ended responding. (For more information about the instruments, see Research Report No. 12)

Procedures

In individual sessions, the students were read the questions (and possible answers) by an interviewer. The students' responses were recorded on the instrument either by the interviewer or the student, at the students' choice. The parent instruments were either mailed or carried home by the students. Follow-up letters and phone calls prompted delayed returns.

Data Analysis

The Kansas University Institute for Research in Learning Disabilities Research Reports in which data from the first phase of the comprehensive Level I epidemiological study are numbered (including the present report) 12 through 20. A thorough discussion of the specific

procedures used in data analysis for the study as a whole as well as the rationale for those procedures is contained in Research Report Number 12, Details of Methodology (Schumaker et al., 1980). The following comments are condensed from that report.

In general, two types of variables are discussed in Research Reports 12-20: (a) individual items from the Youth, Parent, or Regular Teacher Assessment Instruments, or specific ability or achievement test scores and (b) FSCALES. The FSCALES were derived by equally weighting and averaging performance on two or more items from one of the assessment instruments. Items were combined into an FSCALE if they had a moderate to strong loading on the same factor. A listing of the items which made up each FSCALE is contained in Research Report No. 12.

In order to test for significant group differences in individual assessment instrument items, test scores, or FSCALES, the following procedure was adopted. The BMDP7D computer program (Dixon, 1975) was used to conduct a univariate F test for each variable under consideration. For each variable, if the p value associated with F was less than or equal to .01, confidence bands for each mean were constructed. Two standard errors of the mean ($SE = SD/\sqrt{n}$) were added and subtracted from each mean. If the confidence bands for a given pair of means did not overlap, the means were considered significantly different.

Results

The students were asked to answer a number of questions related to their satisfaction with school, their school performance, themselves as learners, reasons for dissatisfaction they had with school and future school and job plans. The data for those variables in which a significant difference was found between at least one pair of subject groups (LD and LA, LD and NA, LA and NA) are shown in Tables 1 - 12. In each

table are shown: (1) the question(s) asked and the possible answers, (2) the mean answer for each group, (3) the standard deviation for each group, (4) the number of students responding, (5) the F values, and (6) an indication of whether or not the confidence bands for each pair of groups overlapped. If the overlap indication is listed as "No", this means that there is no overlap between the means for a given pair of groups. Thus, there is a significant difference between the means for these two groups in the given pair. If the overlap indication is "Yes", then there is overlap between the means and no significant difference was found between the groups. The data presented in the tables represents data collected in both junior and senior high schools for the LD and LA groups and collected in a senior high school for the NA group. Data are not yet analyzed for the junior high normal achievers.

Future Educational and Job Plans

Table 1 shows student responses to the question "How much schooling do you actually expect to get eventually?" This variable did not differentiate LD from LA students but it did differentiate NA students from both LD and LA. The mean response for the LD and LA groups indicates that students in these groups expect to receive some training in trade or business school. The mean response for the NA group indicates an expectation for college graduation. The most frequently reported choice made by the LD and LA groups was the completion of high school (36% and 35% respectively). The most frequently reported choice for NA students was college graduation. When the student responses to the options "college graduation" and "graduate or professional degree" were combined 22% of the LD, 24% of the LA and 80% of the NA students reported educational expectations in those categories. Less than 1% of the LD group reported expecting to receive less than a complete

high school education, 4% of the LA and none of the NA group reported expecting to get less than a high school degree.

Table 2 shows the kinds of jobs students eventually expect to have in post school settings. The ratings in this table are based on the Warner, Meeker, Eells' Revised Scale for Rating Occupation (Handbook of Research Design and Social Measurement). This variable did not differentiate LD from LA students but it did differentiate NA students from both LD and LA students. The mean response for the LD and LA students indicate that most expect to have jobs in categories 3 and 4 of the Warner, Meeker, Eells Scale for Rating Occupation. Categories 3 and 4 include such positions as: social worker, librarian, bank clerks, automobile salesperson, stenographers, salesclerk in store, butcher or carpenter (in own business), etc. The mean response for the NA group indicates jobs in category 2, such as: teachers, editors, assistant managers, accountants, etc. Category 1 of the Warner, Meeker, Eells Scale consists of highly trained professionals and executives (e.g., lawyers, doctors, business managers, CPAs, etc.) Sixteen percent of the LDs, 19% of the LAs and 40% of the NAs reported job expectations for this category. At the other end of the job continuum (Categories 6 and 7 which represented semiskilled and unskilled job roles) 16% of the LDs, 19% of the LAs, and 2% of the NAs reported job expectations of this nature.

Satisfaction with School and School Performance

Three variables related to the students' satisfaction with school and their performance in school. Table 3 reports data on student responses to the first variable "How do you like school?" This variable did not differentiate LD from LA students but it did differentiate NA students from both LD and LA students. The responses for all groups were in the

direction of liking rather than disliking school. NA students reported liking school the most, LA students the least. Responses by students to the two choice options of "I like school fairly well" and "I like school very much" were combined. 81% of the NA responses fell in these two categories, 64% of the LD responses and 55% of the LA responses. At the other end of the continuum when responses to "I dislike school" and "I dislike school very much" were combined 3% of the NA, 11% of the LD and 9% of the LA responses fell in these categories.

Table 4 reports data on student responses to the second variable which related to student preferences on how they would spend a school day. While this variable yielded a significant F value, the only differentiation was between the LA and NA groups. The mean response for all groups to this question fell between the options of "going to school for part of the day" and "going to school for regular school hours." The extreme responses of "skipping school all day" and "going to school and getting there early or staying late to take part in some school activities" yielded the following responses respectively: LD=13%, LA=15%, NA=14% and LD=16%, LA=10%, NA=25%.

Table 5 shows data on the third variable: reports on how satisfied students are with their school performance. This variable differentiates all three groups. The mean responses of the LD (4.376) and NA (4.860) groups are in the direction of being more satisfied than dissatisfied with how they are doing in school. The mean response of the LA group (3.239) is in the direction of more dissatisfaction. When responses to "completely dissatisfied" and "dissatisfied" were calculated it was found that 17% of LD responses, 44% of LA responses, and 9% of NA responses fell in these categories. At the other extreme in the categories

of "completely satisfied" and "satisfied" 39% of LDs, 17% of LAs and 48% of NAs responded.

Attributions for School Dissatisfaction

In order to determine attributions made by the three target groups for their school performance a post hoc analysis was done on responses in Table 5 that fell in categories 1 (completely dissatisfied), 2 (dissatisfied), or 3 (slightly dissatisfied). In other words, if students responded that they were dissatisfied (response category 1, 2, 3) with how they were doing in school they were asked the following question: "If you're dissatisfied, which of these reasons best tells why you think you're not doing better?"

I just don't learn like others do (ability attribution).

The work is too hard (task difficulty attribution)

I've had bad luck in school (luck attribution)

I don't care about school (effort attribution)

Responses were treated separately and submitted to a chi-square analysis. Thus, data presented in Tables 6 - 9 report proportion of each group responding "Yes" or "No" to each item. These data are based only on those students from each group responding in a dissatisfaction category about school performance. More than twice as many LA students (44%) reported being dissatisfied with school as did LD students (17%). Only 9% of NA students reported dissatisfaction with school. According to the data presented in Tables 6 52.27% of the LD students report that they are dissatisfied with school because "they don't learn like others do" (ability attribution). Only 27.40% of the LAs and 10.53% of the NAs make ability attributions. A greater percentage of LD students also make task difficulty attributions (19.32%) than LA (9.59%) or NA (7.02%) students. The highest attribution for

for LA students (36.99%) is luck ("I've had bad luck in school") compared to 22.73% for LD students and 26.36% for NA students. Finally, the NA group made the largest percentage of effort attributions (31.58%) compared to 7.95% for LD students and 21.23% for LA students.

Perceived Performance on Learning Tasks

Three variables related to the students' perceived performance on learning tasks. Table 10 reports that the variable of learning rate (that is, "how fast you learn new things in comparison to other kids") differentiates all three groups. The mean response of the LD (2.137) group is "I have some difficulty", the mean response of the LA group is higher (2.635) and between "I have some difficulty" and "I learn about the same rate as most other kids." The NA group (3.612) reports "learning like other students" to "a bit quicker". No LD students reported learning a lot quicker than others, and only 7% reported learning a bit quicker. At the other extreme when the two response categories denoting slow or difficult learning were combined almost twice as many LD responses (70%) fell in these categories as LA students (45%) and 9% of NA students.

Table 11 reports the degree to which students are satisfied with the way in which they learn new things. While this variable did not differentiate LD and LA groups it is interesting to note that the mean responses of the LD and LA groups are in the direction of being satisfied with the LD group being more satisfied than the LA group (4.833 vs. 4.703). Furthermore, when responses to the top two categories ("satisfied" and "completely satisfied") were calculated a high percentage of all students reported satisfaction (LD=52%; LA=44%; NA=65%).

Table 12 indicates that LD and NA students report the same behavior in relation to task completion. While these results may reflect differences in task assignment difficulty (i.e., assignments given to LD students in special class settings geared to his/her learning ability) they also suggest similar level of persistence for task completion across groups. This variable differentiates LD from LA students.

Discussion

These data, based on student self-reports, revealed some interesting patterns about the perceived school experiences and learning styles of the three target groups.

A large portion of the LD students reported a relatively high level of satisfaction with their school experiences. While LA students also reported general satisfaction with school there was a significant difference between the satisfaction reported by LD students about their actual performance in school and that reported by LA students. LD students felt much better about their school performance. These findings have several implications. First, the higher satisfaction with actual performance reported by LD adolescents may be a direct reflection of the differential treatment they receive as a result of their placement in LD services. These instructional services are typically characterized by much individualized attention, reinforcement for good performance and assignments that tend not to frustrate students. On the other hand, LA students who encounter similar academic and cognitive problems often receive no support services during the school day. Second, these reports of general satisfaction with school experiences by students do not coincide with reports of how much mildly handicapped adolescents dislike public school. These data suggest that curricular and service delivery

decisions for LD adolescents to set up alternative situations which remove the LD student from the regular curriculum should carefully weigh the degree to which the students academic performance as well as his/her satisfaction with school will be enhanced by such modifications. Often times alternative situations are created for LD students on the assumption that LD students are dissatisfied with their school experiences- these data do not support such assumptions. Finally, these data may be somewhat skewed because they were not collected on adolescents who have dropped out of school. That is, by definition, many students who drop out of school do so because of dissatisfaction with their school experience. An important question to be answered is what specific things in the school experiences of students who have dropped out of school contributed to that decision.

While differences were not found between the expectations of LD and LA students for additional formal schooling and job placement after school an intriguing finding was the high percentage of LD students reporting that they intended to graduate from college or receive a professional degree (22%). These reports are somewhat incompatible with the relatively low achievement level of LD adolescents in basic academic areas reported by Warner, Alley, Schumaker and Deshler (1980) in Research Report No. 13. The reports of future school and job expectations by LD adolescents have implications for curricular programming decisions for these students. In essence, LD students report expectations of at least completing high school and obtaining jobs that would provide them with middle-class incomes. These expectations may be a reflection of the values of these students. These values should be given consideration in programming decisions by educators. Finally, it is unclear from these data how much student responses were influenced

by parental values and expectations for future schooling and job selection.

LD students differed most markedly from their LA and NA peers on measures of learning rate, ease of completing tasks, and attributions accounting for academic performance. LD students report that they learn things more slowly, and in a different way than others. These data are most significant in that they relate directly to cognitive-academic factors which our other epidemiology research found to best differentiate LD from LA students (see Research Report No. 13). In essence, these data indicate that LD students also see their main reasons for discrepant school performance with other students to relate primarily to their cognitive characteristics. An important question related to these findings, however, is the effect of the LD students' history in special services. Specifically, years of exposure to special testing and instructional methods, direct suggestions from parents, teachers and/or peers, of "being different", may all influence the academic self-image the LD student forms of himself.

In summary, the variables studied in this investigation appear to be important ones in understanding the school performance and academic self-image of students labeled as LD in relation to their peers who are classified as LA and NA. While some variables revealed differences between LD and LA students, more measures showed similarities than differences. The reports of LD students on these factors have a high probability of being affected by their placement in existing special education services. The degree to which their reports are an artifact of service placement rather than directly attributable to the condition of LD is yet unanswered.

References

- Alley, G. R. & Deshler, D. D. Teaching the learning disabled adolescent: strategies and methods. Denver: Love, 1979.
- Clark, G. M. Mainstreaming for the secondary educable mentally retarded: Is it defensible? Focus on Exceptional Children, 1975, 7, (2), 1-5.
- Deshler, D. D. Psychoeducational aspects of learning disabled adolescents. In L. Mann, L. Goodman, & J. L. Wiederholt (Eds.), Teaching the learning disabled adolescent. Boston: Houghton-Mifflin, 1978.
- Lewin, K. A dynamic theory of personality: Selected Papers. Translated by Donald K. Adams and Karl E. Zener. New York: McGraw-Hill, 1935.
- Nassor, I. M. Project COPE Teacher's Guide. Fairfax County Public Schools, 1978.
- Poremba, C. The adolescent and young adult with learning disabilities: What are the needs of those who deal with him? In International approach to learning disabilities of children and youth. San Rafael, CA: Academic Therapy, 1967.
- Senf, G. M. An information-integration theory and its application to normal reading acquisition and reading disability. In N. D. Bryant & C. E. Kass (Eds.), Leadership training institute in learning disabilities: Final report, Vol. 2. Tucson, Arizona, University of Arizona, 1972. 305-391.
- Torgeson, J. K. The role of nonspecific factors in the task performance of learning disabled children: A theoretical assessment, Journal of Learning Disabilities, 1977, 10, 27-34.
- Touzel, S. W. Secondary curricula - a proposed framework. Learning Disability Quarterly, 1978, 4, 53-61.
- Vellutino, F. R. Alternative conceptualizations of dyslexia; Evidence in support of a verbal deficit hypothesis. Harvard Educational Review, 1977, 47, 334-354.
- Wiederholt, J. L. Educating the learning disabled adolescent: Some assumptions. Learning Disability Quarterly, 1978, 4, 11-24.
- Wiederholt, J. L. & McEntire, B. Educational options for handicapped adolescents. Exceptional Education Quarterly, 1980, 2.
- Zigmond, N. A prototype of comprehensive services for secondary students with learning disabilities. Learning Disability Quarterly, 1978, 1, 39-49.

Acknowledgements

The process of data collection in a study as large as the Epidemiology Study is a complex one. Many research assistants spend numerous hours searching through school files, contacting teachers and parents, testing students, and scoring tests. The assistance of these individuals is gratefully acknowledged. In particular, the following individuals made major contributions to the procedures and communications with the school districts and with school personnel: Pegi Denton, Bob LaGarde, Patty Lee, Tes Mehring, Sue Nolan, John Schmidt, and Alice Matter.

TABLE 1

AMOUNT OF SCHOOL STUDENT PLANS TO COMPLETE

YOUTH QUESTION: How much schooling do you actually expect to get eventually?

1. Some high school
2. High school graduation
3. On the job apprenticeship
4. Trade or business school
5. Some college or junior college
6. College graduation
7. Graduate or professional degree

	LD	LA	NA	OVERLAP
$\bar{X}$	3.845	3.785	6.000	LD/LA: Yes
SD	1.692	.788	1.115	LD/NA: No
n	233	219	215	LA/NA: No

$$F = 141.8144$$

$$p < \underline{.0001}$$

TABLE 2

PREDICTED OCCUPATIONAL STATUS

YOUTH QUESTION: What kind of job do you think you will eventually have? (e.g., farmer, secretary, housewife, doctor, carpenter)

1. Lawyer, doctor, business manager, etc.
2. Teacher, editor, assistant manager, accountant, etc.
3. Social worker, librarian, bank clerk, auto sales, etc.
4. Stenographer, salesperson in store, butcher, carpenter, (own business), etc.
5. Telephone operator, apprentice carpenter, barber, cook, etc.

	LD	LA	NA	OVERLAP
$\bar{X}$	3.799	3.765	2.225	LD/LA: Yes
SD	1.670	1.823	1.363	LD/NA: No
n	154	136	120	LA/NA: No

$$F = 38.2529$$

$$p < \underline{\quad .0001 \quad}$$

TABLE 3

HOW MUCH STUDENTS LIKE SCHOOL

YOUTH QUESTION: Some people of your age like going to school and some don't. How do you like school?

1. I dislike school very much
2. I dislike school
3. I don't care one way or the other
4. I like school fairly well
5. I like school very much

	LD	LA	NA	OVERLAP
$\bar{X}$	3.479	3.320	3.925	LD/LA: Yes
SD	1.169	1.085	.876	LD/NA: No
n	234	222	213	LA/NA: No

$$F = 19.1637$$

$$p < \underline{.0001}$$

TABLE 4

PREFERENCE FOR SPENDING A SCHOOL DAY

YOUTH QUESTION: If you had your choice among these things, which one would you choose on a school day?

1. Skipping school all day
2. Going to school for part of the day
3. Going to school for regular school hours
4. Going to school and getting there early or staying late to take part in some school activities

	LD	LA	NA	OVERLAP
$\bar{X}$	2.521	2.388	2.684	LD/LA: Yes
SD	.918	.862	.997	LD/NA: Yes
n	234	219	212	LA/NA: No

$$F = 5.5050$$

$$p = \underline{.0043}$$

TABLE 5

SATISFACTION WITH SCHOOL PERFORMANCE

YOUTH QUESTION: How satisfied are you with the way you're actually doing in school?

1. Completely dissatisfied
2. Dissatisfied
3. Slightly dissatisfied
4. Neither satisfied or dissatisfied
5. Slightly satisfied
6. Satisfied
7. Completely satisfied

	LD	LA	NA	OVERLAP	
$\bar{X}$	4.376	3.239	4.860	LD/LA:	No
SD	1.759	1.721	1.479	LD/NA:	No
n	234	222	215	LA/NA:	No

$$F = 55.2383$$

$$p < \underline{.0001}$$

TABLE 6

ABILITY ATTRIBUTION FOR PROPORTION OF STUDENTS
RESPONDING "YES" - "NO" TO THE STATEMENT: "I JUST DON'T LEARN
LIKE OTHERS DO."

	LD	LA	NA
NO	47.73	72.60	89.47
YES	52.27	27.40	10.53
n	88	146	57

$$\chi^2 = 30.296$$

$$p < .001$$

TABLE 7

TASK DIFFICULTY ATTRIBUTION FOR PROPORTION OF STUDENTS
RESPONDING "YES"- "NO" TO THE STATEMENT "THE WORK IS TOO HARD."

	LD	LA	NA
NO	80.68	90.41	92.98
YES	19.32	9.59	7.02
n	88	146	57

$$\chi^2 = 6.593$$

$$p = .0370$$

TABLE 8

LUCK ATTRIBUTION FOR PROPORTION OF STUDENTS RESPONDING
"YES" - "NO" TO THE STATEMENT "I'VE HAD BAD LUCK IN SCHOOL."

	LD	LA	NA
NO	77.27	63.01	73.68
YES	22.73	36.99	26.32
n	88	146	57

$$\chi^2 = 5.867$$

$$p = .0532$$

TABLE 9

EFFORT ATTRIBUTION FOR PROPORTION OF STUDENTS RESPONDING
"YES" - "NO" TO THE STATEMENT "I DON'T CARE ABOUT SCHOOL."

	LD	LA	NA
NO	92.05	78.77	68.42
YES	7.95	21.23	31.58
n	88	146	57

$$\chi^2 = 13.169$$

$$p = .0014$$

TABLE 10

LEARNING RATE

YOUTH QUESTION: Which of the following descriptions most closely describe how fast you learn new things in comparison to other kids?

1. I have a hard time and learn very slowly
2. I have some difficulties
3. I learn at about the same rate as most
4. I learn a bit quicker than the other kids
5. I learn a lot quicker than the other kids

	LD	LA	NA	OVERLAP
$\bar{X}$	2.137	2.635	3.612	LD/LA: No
SD	.858	.833	.813	LD/NA: No
n	234	222	214	LA/NA: No

$F = 78.7040$

$p < \underline{.0001}$

TABLE 11

SATISFACTION WITH LEARNING RATE

YOUTH QUESTION: How do you feel about the way you learn new things?

1. Completely dissatisfied
2. Dissatisfied
3. Slightly dissatisfied
4. Neither satisfied nor dissatisfied
5. Slightly satisfied
6. Satisfied
7. Completely satisfied

	LD	LA	NA	OVERLAP
$\bar{X}$	4.833	4.703	5.474	LD/LA: Yes
SD	1.595	1.569	1.176	LD/NA: No
n	234	222	213	LA/NA: No

$$F = 17.2299$$

$$p < \underline{.0001}$$

TABLE 12

DIFFICULTY IN COMPLETING TASKS AND PROJECTS

YOUTH QUESTION: How easy is it for you to complete tasks or projects that you have started (e.g., a homework assignment, sewing project, model-building project)?

1. I never finish things
2. I usually don't finish
3. I finish things about half the time
4. I usually finish things
5. I always finish things

	LD	LA	NA	OVERLAP
$\bar{X}$	3.915	3.643	3.949	LD/LA: No
SD	.840	.783	.671	LD/NA: Yes
n	234	221	215	LA/NA: No

F = 10.5006

p < .0001